Fig. 1

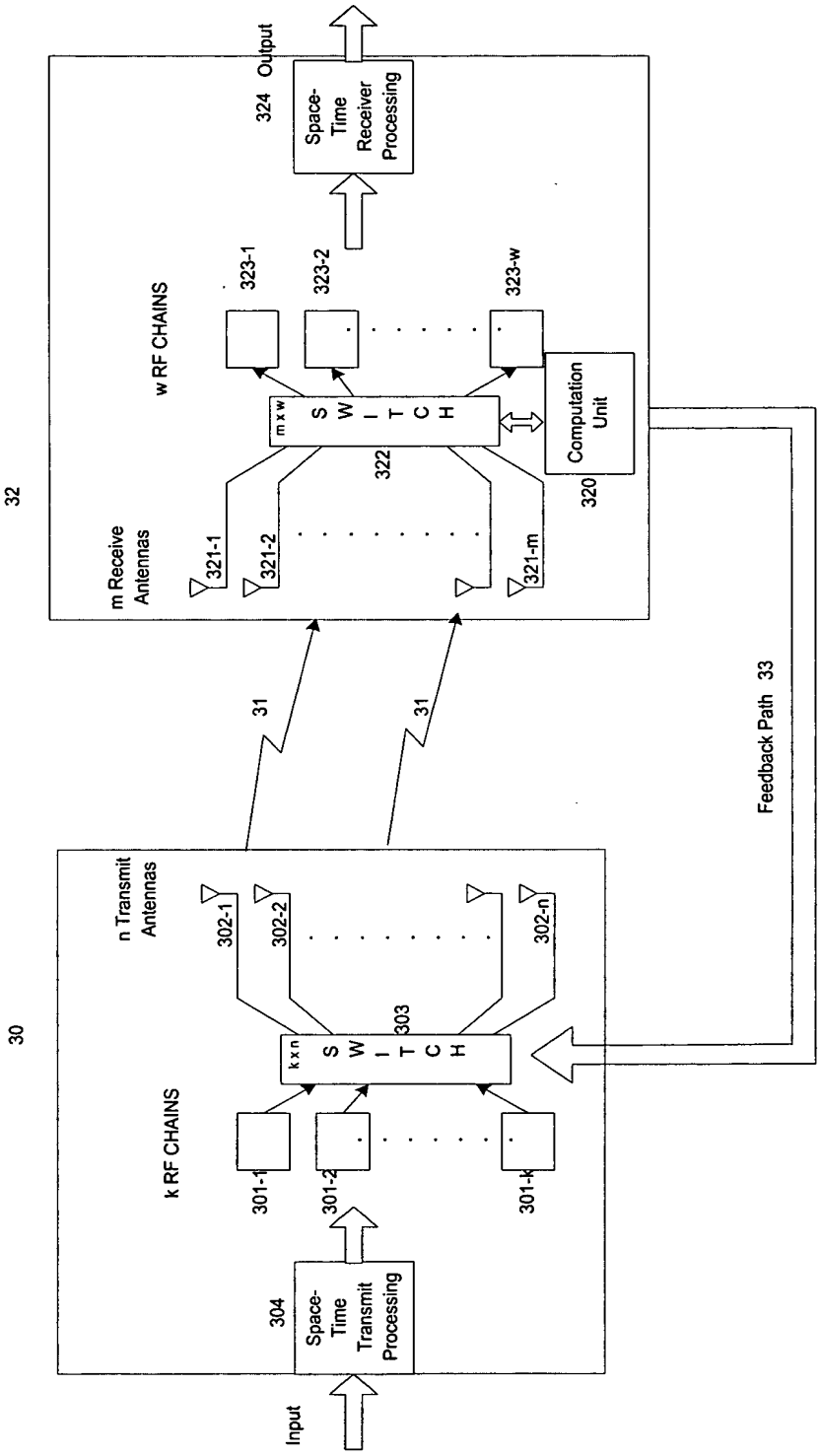
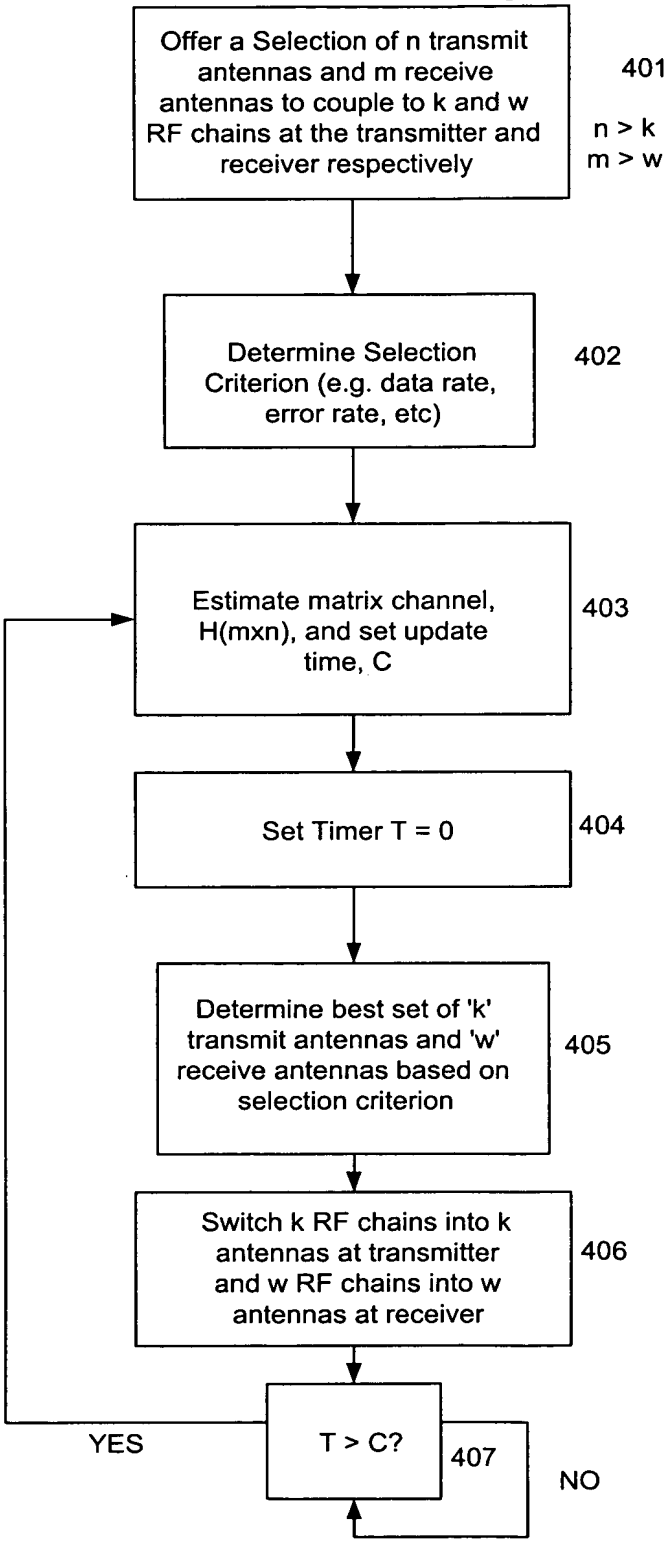

Input
Space-Time Transmit Processing
304
k RF CHAINS
301-1
301-2
301-k
n Transmit Antennas
302-1
302-2
302-n
303
k x n
S W I T C H
30
31
31
m Receive Antennas
321-1
321-2
321-m
322
m x w
S W I T C H
w RF CHAINS
323-1
323-2
323-w
Computation Unit
320
32
Space-Time Receiver Processing
324
Output
Feedback Path 33

Fig. 2


Offer a Selection of n transmit antennas and m receive antennas to couple to k and w RF chains at the transmitter and receiver respectively
401
n > k
m > w
Determine Selection Criterion (e.g. data rate, error rate, etc)
402
Estimate matrix channel, H(mxn), and set update time, C
403
Set Timer T = 0
404
Determine best set of 'k' transmit antennas and 'w' receive antennas based on selection criterion
405
Switch k RF chains into k antennas at transmitter and w RF chains into w antennas at receiver
406
T > C?
407
YES
NO